

United States Patent Application
Blower Support Device For Utility Vehicle

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Cross-reference to Related Application

[0001] This application claims the benefit of U.S. Provisional Application No. 60/369,978, filed July 18, 2002, and U.S. Provisional Application No. 60/396,979, filed
10 July 18, 2002.

Background of the Invention

[0002] The present invention relates broadly to yard maintenance devices and, more
15 particularly, to a leaf blower support device that will provide support for a leaf blower, or other power implement, when used on a lawn vehicle, land vehicle, or other utility vehicle.

[0003] Lawn grooming and maintenance typically requires leaf blowing and other
20 blowing chores including blowing lawn trimmings out of certain areas. Currently, leaf blowers or lawn blowers, herein referred to generically as blowers, are worn by a user in the manner of a back pack with straps that extend across the shoulders of the user with the blower, fuel container, and drive motor being carried by the user.

[0004] Trends in the industry point to mobilization of the operators of weed eaters and
25 blowers and with the mobilization comes the opportunity to remove the load from the back of a blower operator. Improvements to lawn grooming operations are immediate after mobilization of the formerly foot-bound workers. Walking, carrying and operating implements can slow down a lawn grooming operation, especially when the facility undergoing care is large. Further, walking and carrying the implement can tire workers,

requiring frequent breaks. Use of the present invention can immediately relieve these problems.

[0005] Even with mobilization, only a portion of those benefits may be realized if the blower operator is required to carry the blower on his or her back. Accordingly, there
5 exists the need for a device to support a blower while the operator is mobile.

Summary of the Invention

[0006] It is accordingly the object of the present invention to provide a blower support device for use with a lawn traveling vehicle that will relieve the burden of the operator
10 when the operator is riding on mobile lawn care vehicle. It will be apparent to those skilled in the art that the present invention is capable of a wide variety of uses and that the present description, with a focus on yard maintenance, should not be seen as limiting the present invention in any way.

[0007] It is additionally an object of the present invention to provide a leaf blower, or
15 other power implement support device for use on utility vehicles, including lawn vehicles.

[0008] It is another object of the present invention to provide such a leaf blower support device that allows the blower to be moved between a use position and a position for starting the blower that is convenient for the operator of the lawn vehicle.

20 [0009] Another object of the present invention is to provide such a blower support device that is latchable in the use position.

[0010] To those ends a power implement support device for vehicular mounting includes an implement support assembly including an implement support member and a

pivotal support member mounted thereto. The power implement support device further includes a base support member for mounting to the vehicle adjacent an operator seat thereof, the base support member having the pivotal support member pivotably mounted thereto for movement of the implement support member between an
5 implement use position and an implement access position. The present power implement support device further includes a latching assembly having a first portion mounted to the implement support assembly and a second portion for mounting to the vehicle to selectively retain the implement support member in the use position.

[0011] It is preferred that the implement support assembly include a generally planar
10 platform for implement support. Further, the implement support assembly may preferably include a generally vertical support member projecting outwardly from the one of the implement support member and the pivotal support member.

[0012] In addition, the present invention may preferably further include at least one generally horizontally-oriented support member mounted to the generally vertically-
15 oriented support member at a position vertically spaced from the implement support member.

[0013] It is further preferred that the present invention include a throttle control mechanism for the power implement, with the throttle control mechanism being mounted to one of the implement support member and the pivotal support member.

[0014] Preferably, the first portion of the latching assembly includes a curved member
20 pivotally mounted to one of the implement support member and the pivotal support member; and the second portion of the latching assembly includes a stop bar for selective engagement and disengagement by the curved member. It is further preferred

that the curved member is mounted to one of the implement support member and the pivotal support member for pivotal movement of the curved member in a generally vertical manner.

[0015] It is preferred that the first portion of the latching assembly include a lifting

5 member mounted to the curved member to assist the pivotal movement of the curved member. It is also preferred that the stop member includes a ramped surface for engagement by the lifting member to assist the curved member to override the stop member during latching.

[0016] The present invention may be described in a more concise, detailed manner. In

10 that regard, a power implement support device for vehicular mounting includes an implement support assembly including an implement support platform, a pivotal support member mounted thereto, a generally vertical support member projecting outwardly from the one of the implement support platform and the pivotal support member, and at least one generally horizontally-oriented support member mounted to the generally

15 vertically-oriented support member at a position vertically spaced from the implement support platform. The support device according to the present invention includes a base support member for mounting to a vehicle adjacent an operator seat thereof, the base support member having the pivotal support member pivotably mounted thereto for movement of the implement support member between an implement use position and

20 an implement access position. Also included is a latching assembly having a first portion mounted to the implement support assembly and a second portion for mounting to the vehicle to selectively retain the implement support member in the use position, the first portion including a curved member pivotally mounted to one of the implement support

member and the pivotal support member; and with the second portion including a stop bar for selective engagement and disengagement by the curved member, and wherein the curved member is mounted to one of the implement support member and the pivotal support member for pivotal movement of the curved member in a generally vertical manner.

[0017] The present support device further may preferably include a throttle control mechanism for the power implement, the throttle control mechanism being mounted to one of the implement support member and the pivotal support member.

[0018] It is preferred that the first portion of the latching assembly includes a lifting member mounted to the curved member to assist the pivotal movement of the curved member. Preferably, the stop member includes a ramped surface for engagement by the lifting member to assist the curved member to override the stop member during latching.

[0019] The present invention may also be described in more specific terms with respect to one of its environments. To that end, a leaf blower support device for mounting to a lawn vehicle, the leaf blower support device includes a blower support assembly including an blower support platform, a pivotal support member mounted thereto, a generally vertical support member projecting outwardly from the one of the blower support platform and the pivotal support member, and at least one generally horizontally-oriented support member mounted to the generally vertically-oriented support member at a position vertically spaced from the implement support platform for engagement by any straps associated with the blower. The present invention also includes a base support member for mounting to the lawn vehicle adjacent an operator

seat thereof the base support member having the pivotal support member pivotably mounted thereto for movement of the blower support member between a blower use position and a blower starting position. Also included is a latching assembly having a first portion mounted to the blower support assembly and a second portion for mounting
5 to the lawn vehicle to selectively retain the blower support platform in the blower use position, wherein the first portion includes a curved member pivotally mounted to one of the implement support member and the pivotal support member and wherein the second portion includes a stop bar for selective engagement and disengagement by the curved member, and wherein the curved member is mounted to one of the blower
10 support platform and the pivotal support member for pivotal movement of the curved member in a generally vertical manner for latching engagement with and disengagement from the stop bar.

[0020] It is preferred that the present invention further include a throttle control mechanism for the blower, with the throttle control mechanism being mounted to one of
15 the blower support platform and the pivotal support member

[0021] It is preferred that the first portion of the latching assembly includes a lifting member mounted to the curved member to assist the pivotal movement of the curved member. It is further preferred that the stop member includes a ramped surface for engagement by the lifting member to assist the curved member to override the stop
20 member during latching.

[0022] By the above, the present invention provides a convenient and sturdy support for a leaf blower for use on or with a lawn mower, tractor, or other utility vehicle.

[0023] The present invention provides a support stand, including a generally horizontal platform and a generally vertically extending support member. A cylindrical mounting post, or shank is provided and projects upwardly for operational receipt in a corresponding cylindrical mounting receiver. The platform and vertically extending support member may then be rotated about an axis defined by the mounting post in registry with the receiver. Additionally, a remote throttle is provided for access by a user.

Brief Description of the Drawings

[0024] Figure 1 is a perspective view of a blower support device according to a preferred embodiment of the present invention supporting a conventional blower;

[0025] Figure 2 is a perspective view of a the blower support device illustrated in Figure1 shown in an intermediate position;

[0026] Figure 3 is a front view of a utility vehicle having a blower support device shown in a starting position;

[0027] Figure 4 is a perspective view of a remote throttle for a blower mounted on the blower support device illustrated in Figure 1;

[0028] Figure 5 is a perspective view of a latch arrangement for a blower on the blower support device illustrated in Figure 1 shown during latching; and

[0029] Figure 6 is a perspective view of a latch arrangement for a blower on the blower support device illustrated in Figure 1 shown latched.

Description Of The Preferred Embodiment

[0030] Turning now to the drawings and, more particularly to Figure 1, a power
5 implement support device is illustrated generally at 10 and is seen in an operational
condition mounted to a lawn utility vehicle V with a leaf blower B attached thereto. It is
preferred that the power implement support device 10 be mounted directly behind an
operator, adjacent the operator's seat so that while the burden of carrying the blower is
alleviated, the blower remains in a familiar position to the user. This is better illustrated
10 in Figure 2 wherein a lawn vehicle V includes a seat T with an implement support device
10 according to the present invention depicted immediately rearwardly of the seat T.

[0031] As seen in Figure 1, an implement or blower support assembly is illustrated
generally at 12 and includes a generally horizontally extending support member formed
as a platform 14 that is sized to hold a conventional blower B and has thereattached a
15 vertically extending support member 18. The vertically extending support member 18
has two horizontally projecting, spaced support members formed as rods 20 mounted
theretwo in a vertically spaced relationship. The rods 20 serve the operator by
providing a mounting location for the conventional backpack-like straps S usually
provided with a blower B. This eliminates the need to modify a blower for mounting to
20 the implement support device 10.

[0032] It should be noted that the preferred configuration includes a substantially
horizontally-extending platform 14 and some form of vertical support member 18,
however, it will be understood by those skilled in the art that several configurations of
the basic implement support device 10 are possible. For example, a generally planar
25 vertical support member may be provided with openings therein to receive the blower

straps. Ultimately, straps could be attached to the vertically extending support member for engagement with the blower. These and other variations will be apparent to those skilled in the art.

[0033] As seen in Figure 2, a generally horizontally extending pivotal support member 16 is provided that extends laterally away from the vertically oriented support member 18, although it could be mounted to the platform 16. The pivotal support member 16 provides the primary support for the implement support device 10 when carried on a land vehicle. A generally tubular receiver 17 is provided at the distal end of the support member 16.

[0034] The present invention also includes a base support member 22. As illustrated in Figures 2 and 3, the vehicle to which the present implement support device 10 is to be mounted is provided with an inverted, generally L-shaped channel that serves as the base support member 22 and will support the present implement support device 10. At the distal end of the base support member 22, a cylindrical shank 25 is provided which corresponds to the receiver 17 attached to the pivotal support member 16. The tubular receiver 17 receives the shank 25 and allows the blower support assembly 12 to pivot thereabout. It should be noted that the receiver 17 and shank 25 may be reversed, i.e. the shank 25 being mounted to the pivotal support member 16 and the receiver 17 being mounted to the base support member 22.

[0035] Balance is provided by orienting the vertical portion of the base support member 22 with the vertically oriented support member 18 as seen in Figure 2. By providing a rotational axis that is offset from the vertical support member 18, the blower support assembly 12 can be pivoted between a starting position as illustrated in Figure 1 and a

use position as illustrated in Figure 3 through an intermediate position as seen in Figure 2. This operation will be explained in greater detail hereinafter.

[0036] In order to operate the blower when it is mounted on a implement support device 10, a remote throttle control 36 is provided, as seen in Figure 4 and is mounted for convenient use by the operator of the utility vehicle V. The remote throttle control 36 includes a lever 38 pivotably attached to a base 40. The lever 38 is in operational communication with the blower throttle using a cable assembly 42.

[0037] In order to prevent the implement support assembly 12 from swinging freely on its pivot, a latching assembly 24 is provided as seen in Figures 5 and 6. The latching assembly 24 is mounted adjacent the vertical support member 18 and includes a curved member 26 forming a locking portion and including a generally planar lifting portion 28 for lifting engagement by a user to raise the curved member 26, and a stop member 30 that is mounted to the vehicle V for engagement by the curved member 26. The stop member 30 is provided with a ramped surface 32 that will assist, via contact therewith, the lifting portion 28 in passing over the stop member 30 for locking engagement therewith.

[0038] The curved member 26 is spring-biased into a downward position and moves upwardly against the spring (not shown). Therefore, the user must lift the lifting portion 28 in order to disengage the curved member 26 from the stop member 30. In the reverse operation, abutment of the curved member 26 with the stop member 30 moves the curved member 26 upwardly against the spring and allows the curved member 30 to automatically lock in place once the platform 16 is moved through its travel path to the use position.

[0039] In operation, the operator places the implement support device 10 in a latched configuration as seen in Figure 1. A blower B may be then mounted to the implement support device 10 with the straps of the blower B engaging the horizontal rods 20 as seen in Figure 1. Once the operator has mounted the vehicle seat T, he or she can reach behind the seat and lift the curved member 26 of the latching assembly 24 as seen in Figure 5 and move the platform 16 supporting the blower B through a 180 degree arc as seen in Figure 2 to ultimately end up in a user access, or starting position, as seen in Figure 3.

[0040] The blower B can then be started while the operator is seated on the seat at its position in Figure 3 and then rotated back through the position seen in Figure 2 into a latched configuration, as seen in Figure 1. The user may then remove the hose and nozzle and operate the blower from the vehicle, controlling the blower with the remote throttle 36, as seen in Figure 4.

[0041] By the above, the present invention provides an implement support device 10 for a utility vehicle that positions the user and the implement, usually a blower in a mutually compatible position to allow effective use of the blower while operating the vehicle.

[0042] It will therefore be readily understood by those persons skilled in the art that the present invention is susceptible of a broad utility and application. While the present invention is described in all currently foreseeable embodiments, there may be other, unforeseeable embodiments and adaptations of the present invention, as well as variations, modifications and equivalent arrangements, that do not depart from the substance or scope of the present invention. The foregoing disclosure is not intended or to be construed to limit the present invention or otherwise to exclude such other

embodiments, adaptations, variations, modifications and equivalent arrangements, the present invention being limited only by the claims appended hereto and the equivalents thereof.